

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 9984 (1981): Cannula, Air injection, Eye [MHD 5: Ophthalmic Instruments and Appliances]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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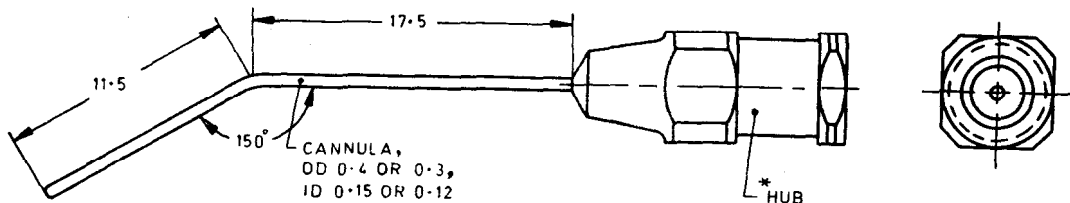


Indian Standard

SPECIFICATION FOR CANNULA, AIR INJECTION, EYE

1. Scope — Dimensional and other requirements for air injection cannula used in eye surgery.

2. Shape and Dimensions — As shown in Fig. 1.



*See IS : 3234-1965 'Conical fittings for hypodermic syringes, needles and other medical equipment, Luer type'.

All dimensions in millimetres.

FIG. 1 CANNULA, AIR INJECTION

2.1 A deviation of ± 2.5 percent shall be allowed on all dimensions.

3. Material

3.1 Cannula — Stainless steel conforming to Designation 04Cr19Ni9 of IS : 1570-1961 'Schedule for wrought steels for general engineering purposes'.

3.2 Hub — Free cutting brass rod or bar conforming to Type 1 of IS : 319-1974 'Specification for free-cutting brass bars, rods and sections'.

3.3 Stilette — Stilette shall be hard drawn brass wire or stainless steel wire and supplied one for each cannula.

4. Conical Fitting — Luer type conforming to IS : 3234-1965.

5. Workmanship and Finish

5.1 The cannula pushed well into the cavity of the hub shall be securely swaged.

5.2 The cannula shall be smooth both inside and outside and free from pits, tool marks, burrs and foreign matters.

5.3 The hub shall be nickel or chromium plated both inside and outside and polished. The nickel plating shall be of Service Grade No. 2 and the plating conforming to IS : 4827-1968 'Specification for electroplated coatings of nickel and chromium on copper and copper alloys'.

5.4 The free end of cannula shall be smooth, blunt and rounded.

6. Tests

6.1 Leakage Test — Fit the cannula to a tested syringe and connect the syringe to a water source on which pressure could be exerted. Run the water through the needle to eliminate air. Seal the cannula and apply a pressure of 294 kN/m^2 (3 kgf/cm^2 , approx) for 10 seconds. No leakage shall take place at the joint of the hub and the syringe or the cannula and the hub.

6.2 Elasticity — Clamp the hub rigidly and deflect the cannula through an angle of 12° , force being applied at a contact distance of 8 mm. The cannula shall show no permanent set or damage.

Eye Surgery Instruments Sectional Committee, CPDC 27 [Ref: Doc: CPDC 27 (1500)]

IS : 9984 - 1981

6.3 Reverse Bend Test — Clamp the hub firmly and apply force at a contact distance of 8 mm so that cannula is deflected through 30° and reverse the test on the opposite direction. Repeat the test 20 complete cycles and examine the cannula. The cannula shall have suffered no damage and no sign of fracture developed.

6.4 Stiffness — Support the cannula at two places giving span of 10 mm and load it centrally by a load of 550 gm. The deflection of the cannula shall be not greater than 10 mm.

6.5 Security of Swaging — The swaging of the cannula with the hub shall be tested by applying for one minute a pull of 2.0 kg. The cannula shall not come out of the hub and it shall not become loose.

6.6 Corrosion Resistance Test — Immerse the complete cannula in 10 percent solution of cytric acid at room temperature for 5 hours, boil in distilled water for 30 minutes and cool while immersed in the same for 46 hours. The cannula or the hub shall show no corrosion. The test shall be conducted in a glass container.

7. Marking — Each cannula shall be legibly and indelibly marked with the manufacturer's name, initials or recognised trade-mark.

7.1 ISI Certification Marking — Details available with the Indian Standards Institution.

8. Packing

8.1 As agreed between the purchaser and the supplier.